

CLAIMS

WHAT IS CLAIMED IS:

1. A package comprising:
 - a substrate comprising:
 - a pocket;
 - an overflow reservoir around a periphery of said pocket; and
 - a mating surface around a periphery of said overflow reservoir;
 - a first electronic component coupled within said pocket;
 - a sealing encapsulant filling said pocket, said sealing encapsulant comprising an exterior surface coplanar with said mating surface; and
 - excess encapsulant within said overflow reservoir.
2. The package of Claim 1 further comprising a second electronic component coupled within said pocket.
3. The package of Claim 1 wherein said first electronic component is coupled within said pocket in a configuration selected from the group consisting of a wirebond configuration, a surface mount configuration and a flip chip configuration.
4. The package of Claim 1 wherein said substrate further comprises:
 - a pocket base surface; and
 - a pocket sidewall surface, said pocket base surface and said pocket sidewall surface defining said pocket.
5. The package of Claim 4 wherein said first electronic component comprises a first surface comprising a bond pad and a second surface coupled to said pocket base surface, said package further comprising:
 - a pin extending through said pocket base surface and through said substrate and protruding from a lower surface of said substrate; and

a bond wire electrically coupling said bond pad to said pin.

6. The package of Claim 4 wherein said first electronic component comprises a first surface comprising a bond pad and a second surface coupled to said pocket base surface, said package further comprising:

an inner trace coupled to said pocket base surface;
a bond wire electrically coupling said bond pad to said inner trace; and

an outer trace coupled to a lower surface of said substrate, said inner trace being electrically coupled to said outer trace.

7. The package of Claim 6 further comprising an interconnection pad coupled to said outer trace.

8. The package of Claim 6 further comprising an interconnection ball coupled to said outer trace.

9. The package of Claim 1 wherein said sealing encapsulant comprises a cured flowable material.

10. The package of Claim 1 wherein said exterior surface of said sealing encapsulant has a smoothness approximate equal to a smoothness of glass.

11. The package of Claim 1 wherein said sealing encapsulant is opaque.

12. The package of Claim 1 wherein said excess encapsulant is formed of a same material as said sealing encapsulant.

13. The package of Claim 1 wherein said excess encapsulant comprises an exterior surface below said mating surface.

14. A substrate comprising:
a pocket base surface;
a pocket sidewall surface, said pocket base surface
and said pocket sidewall surface defining a pocket;
a drain base surface;
a drain inner sidewall surface;
a drain outer sidewall surface, said drain base
surface, said drain inner sidewall surface, and said
drain outer sidewall surface defining an overflow
reservoir; and
a runner surface extending between said drain inner
sidewall surface and said pocket sidewall surface.

15. The substrate of Claim 14 wherein said runner
surface extends between said pocket and said overflow
reservoir.

16. The substrate of Claim 14 further comprising a
mating surface extending from said drain outer sidewall
surface, said mating surface being formed around a
periphery of said overflow reservoir.

17. The substrate of Claim 16 wherein said runner
surface is below said mating surface.

18. The substrate of Claim 14 wherein said overflow
reservoir is around a periphery of said pocket.

19. A package comprising:
a substrate comprising:
a pocket; and
an overflow reservoir around a periphery of
said pocket;
an optical element coupled within said pocket, said
optical element comprising an active area on a surface of
said optical element;
a transparent sealing encapsulant filling said
pocket; and

a transparent excess encapsulant within said overflow reservoir.

20. The package of Claim 19 wherein said transparent sealing encapsulant comprises a planar exterior surface parallel with said surface of said optical element and above said active area.

21. The package of Claim 19 further comprising a structure in contact with said sealing encapsulant.

22. The package of Claim 21 wherein said structure comprises a window.

23. The package of Claim 22 wherein a first surface of said window is in contact with said sealing encapsulant, a second surface of said window being in contact with a waveguide.

24. The package of Claim 21 wherein said structure comprises a waveguide.

25. A package comprising:
a substrate comprising a mating surface and a means for containing an electronic component;
a means for protecting said electronic component filling said means for containing; and
a means for preventing said mating surface from being contaminated by said means for protecting.

26. The package of Claim 25 wherein said means for protecting is transparent.

27. The package of Claim 26 wherein said means for protecting comprises an exterior surface coplanar with said mating surface.

28. A method comprising:

coupling an electronic component within a pocket of a substrate;

over filling said pocket with a flowable material;

squeezing said flowable material between a structure and said substrate, a volume of said flowable material overflowing said pocket during said squeezing; and capturing said volume of said flowable material.

29. The method of Claim 28 wherein said volume of said flowable material is captured within an overflow reservoir.

30. The method of Claim 29 wherein a volume of said overflow reservoir is at least as great as said volume of said flowable material.

31. The method of Claim 28 wherein said structure is selected from the group consisting of a window and a waveguide.

32. The method of Claim 28 further comprising curing said flowable material to form a sealing encapsulant comprising a planar exterior surface.

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